



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,371	03/26/2004	Peter S. Chow	TI-35993	8614
23494 7590 01/10/2008 TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			EXAMINER JOSEPH, JAISON	
			ART UNIT 2611	PAPER NUMBER
			NOTIFICATION DATE 01/10/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com  
uspto@dlemail.itg.ti.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/810,371	CHOW, PETER S.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jaison Joseph	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 9,15-18 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9,15-18 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to claim 9 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Objections***

Claim 9, 15 – 18 and 20 are objected to because of the following informalities: Claim 9, line 25 recite the limitation "the communication facility" should have been "the second communication facility". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9, 15 - 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laamanen et al (USPAP 2004/0234269) in view of Wright et al (USPAP 2005/0030975).

Regarding claim 9, Laamanen et al teach a digital subscriber line communications system (see figure 1,, 2 and 3), comprising: a first communications facility comprising: a first twisted-wire pair; a second twisted-wire pair (see figure 2, component 6),; a second communications facility, comprising a fiber optic facility (see figure 2, component 3),; a central office modem, comprising: a first transceiver, for

receiving and demodulating signal in a first frequency band and for modulating and transmitting signal in a second frequency band (see figure 2, transceiver 1), wherein the data rate of the signals received by the first transceiver is significantly lower than that of the signals transmitted by the first transceiver (it is inherent that in DSL communication system upstream frequency band do not overlap with downstream frequency band and downstream frequency band covers higher frequencies than upstream frequencies), a second transceiver, for receiving and demodulating signals in a third frequency band, and for modulating and transmitting signals in a fourth frequency; (see figure 2, transceivers 1) a network interface for interfacing the first and second transceivers to the second communication facility (see figure 2, and paragraph 33 – 39); analog-to-digital converter circuitry, for converting analog signals received over the first and second twisted-wire pairs to digital signals; digital-to-analog converter circuitry, for converting digital signals into analog signals for transmission over the first and second twisted-wire pairs (see figure 3, components 15 and 18); modulator and demodulator circuitry, for modulating and demodulating signals communicated between the communications facility and the first and second twisted-wire pairs, so that the signals communicated over the first and second twisted-wire pairs are modulated according to a discrete multi-tone modulation (see figure 2, component 8) and a concentrator function, coupled to the first and second twisted-wire pairs and to the second communications facility (see figure 2, component 8); and a central processing unit, coupled to the concentrator function, for assigning the first and second twisted-wire pairs to a communications service provider associated with the customer serviced by

the first and second twisted-wire pairs, the first and second transceivers at the central office also associated with that communications service provider (see figure 2, component 8 and figure 1, component 102 it is inherent that RDSLAM has a central processing unit); a customer premises equipment modem (see figure 1 and 2, component 7). Laamanen et al does not expressly teach in second transceiver the data rate of the signals received by the second transceiver is significantly higher than that of the signals transmitted by the second transceiver; a customer premises equipment modem associated with a customer, comprising: a third transceiver, a fourth transceiver, and a host interface, for interfacing the third and fourth transceivers to a network. However in analogous art, Wright et al teach second transceiver the data rate of the signals received by the second transceiver is significantly higher than that of the signals transmitted by the second transceiver (see figure 2, component 210); a customer premises equipment modem associated with a customer, comprising: a third transceiver, for modulating and transmitting signals in the first frequency band over the first twisted-wire pair, and for receiving and demodulating signals in the second frequency band over the first twisted-wire pair (see figure 2, component 208), wherein the data rate of the signals received by the third transceiver is significantly higher than that of the signals transmitted by the third transceiver (see figure 2); a fourth transceiver, for modulating and transmitting signals in the third frequency band over the second twisted-wire pair, and for receiving and demodulating signals in the fourth frequency band over the second twisted-wire pair (see figure 2, component 206), wherein the data rate of the signals transmitted by the second transceiver is significantly

higher than that of the signals received by the second transceiver (see figure 2); and a host interface, for interfacing the third and fourth transceivers to a network (see figure 2, component 202). Therefore it would be obvious to an ordinary skilled in the art at the time the invention was made to incorporate the teachings of Wright et al in Laamanen et al. the motivation or suggestion to do so is to have higher upload speeds in DSL communication.

Regarding claim 15, which inherits the limitations of claim 9, Wright et al further disclose wherein the first and fourth frequency bands are substantially identical (see paragraph 0007).

Regarding claim 16, which inherits the limitations of claim 15, Wright et al further disclose wherein the second and third frequency bands are substantially identical (see paragraph 0007).

Regarding claim 17, which inherits the limitations of claim 9, Wright et al further disclose wherein the first and second frequency bands do not overlap; and wherein the second frequency band covers higher frequencies than the first frequency band (it is inherent that in DSL communication system upstream frequency band do not overlap with downstream frequency band and down stream frequency band covers higher frequencies than upstream frequencies).

Regarding claim 18, which inherits the limitations of claim 17, Wright et al further disclose wherein the third and fourth frequency bands do not overlap; and wherein the third frequency band covers higher frequencies than the fourth frequency band (it is inherent that in DSL communication system upstream frequency band do not overlap

with downstream frequency band and down stream frequency band covers higher frequencies than upstream frequencies).

Regarding claim 20, which inherits the limitations of claim 9, Laamanen et al in view of Wright et al does not expressly teach the twisted pairs are disposed within a common sheath. However one of ordinary skilled in the art at the time the invention was made to have the both twisted pairs disposed within a common sheath. Applicant has not disclosed that the having the both twisted pairs in a common sheath provides an advantage, is used for a particular purpose, or solves a stated problem. Therefore it would be obvious to one of ordinary skilled in the art to modify the Wrights transmission system as specified in claim 20.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Application/Control Number:  
10/810,371  
Art Unit: 2611

Page 7

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaison Joseph whose telephone number is (571) 272-6041. The examiner can normally be reached on M-F 9:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jaison Joseph  
01/04/2008

  
CHIEH M. FAN  
SUPERVISORY PATENT EXAMINER